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EXAMINER	
MCCUE, BRITTANY N	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,028	SANDE ET AL.	
	Examiner	Art Unit	
	Brittany N. McCue	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2011*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-15,17-20 and 22-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-15,17-20 and 22-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1-13-11 has been entered.

Remarks

The request for continued examination was received on 2-14-11. Claims 1-10, 12-15, 17-20, and 22-32 are pending in the application. Claim 16 was previously cancelled and claims 11 and 21 are cancelled herein. Applicants' arguments have been carefully and respectfully considered.

Claims 1-7, 9, 10, 12-15, 17-20, and 22-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu, Jun “A Web Services Based Framework for Integration of Power Systems Applications”, IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein) and further in view of Bashant et al. (US 6,636,875) and Budhraja et al. (US 2005/0033481).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu in view of Bashant and Budhraja as applied to claim 1 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 9, 10, 12-15, 17-20, and 22-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu, Jun "A Web Services Based Framework for Integration of Power Systems Applications", IEEE Power & Energy Magazine, November/December 2003 (referred to as Zhu herein) and further in view of Bashant et al. (US 6,636,875) and Budhraja et al. (US 2005/0033481).

With respect to **claim 1**, Zhu teaches a method for retrieving and accessing data stored in a plurality of systems arranged for operating part of one or more electrical power networks, the method comprising:

providing the systems with user standard interfaces having standard object-oriented navigation and selection, and input and display methods (Zhu, pg. 46-47 & Fig.

11, consumer services such as user interface services such as internet browser or smart device),

providing a virtual asset register comprising elements of the systems, pg. 45, 1st paragraph, service registry for storing information of participating business services), the virtual asset register comprising a model for exchange of data between the systems (Zhu, pg. 45, CIM/XML for Data Exchange, CIM and its extensions provide seamless integration of vendors' proprietary information by describing power system resources, their attributes, and relationships), a mechanism for data consistency in data exchange between systems (Zhu, pg. 44, 3rd paragraph, orchestration service controls the interaction of business functions and provides one central service, enhancing the manageability and maintainability within the integrated system), cross-reference and mapping of relationships of the elements of the systems (Zhu, pg. 48, Messaging and Collaboration, 2nd paragraph, when data changes, the orchestration service invokes corresponding business services for update), and

replicating data related to the new object from the new object to other systems and relevant systems (Zhu, pg. 46, Service-Based Architecture, 3rd paragraph, synchronizing replicated data in various data repositories),

requesting data relating to a target object included in one of the systems (Zhu, Fig. 12, request from consumer),

identifying relevant systems including data relating to the target object (Zhu, pg. 48, Messaging and Collaboration, translating request message and locate collaborators capable of providing the right business service), and

retrieving the data regarding the target object from identified relevant systems utilizing the standard interfaces (Zhu, Fig. 12, retrieving data from each system & pg. 48, Messaging and Collaboration, return results to consumer).

Zhu teaches that the registry, which is controlled by the orchestration service, stores information for participating business services such that the information can be accessed by consumers (Zhu, pg. 45, 1st paragraph). It can be seen that this information would be updated appropriately as new information is added to the systems. In fact, Zhu states that when data changes, the orchestration service invokes corresponding business services for update and broadcasts the update to the subscribed consumer services (Zhu, pg. 48, Messaging and Collaboration, 2nd paragraph). However, Zhu doesn't explicitly recite a method wherein similar elements in different systems are consistently represented in the virtual asset register, adding a new object and data related to the new object into a first system, adding a copy of the new object into a plurality of relevant systems, registering the new object in the virtual asset register, creating the new object in each relevant system based on object templates, establishing automatically a connection between said relevant systems and the new object, and establishing a consistency of accessed or retrieved data in the new object and relevant systems by checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object.

Bashant teaches providing a virtual asset register comprising elements of the systems, the virtual asset register comprising a model for exchange of data between the systems (Bashant, Col. 10 Li. 6-14, system information within the table that indicates how the data elements are broken down between records for a particular system so that the two systems can properly exchange data), and cross-reference and mapping of relationships of the elements of the systems (Bashant, Col. 7 Li. 23-30, a cross-reference system managing identifiers in order to determine where data elements referenced by the identifier are stored in different systems), wherein similar elements in different systems are consistently represented in the virtual asset register (Bashant, Col. 9 Li. 11-30, Table with in the hub system contains keys that correspond to a particular data element stored in the storage systems and contains information relating to how the data elements are stored),

adding a new object (Bashant, Col. 10 Li. 25-31, upon creation of a new data element in a storage system, the hub system must be informed through an instruction to the hub system) and data related to the new object into a first system (Bashant, Col. 10 Li. 31-39, the instruction relating to the new element may include a header containing information relating to the new element & Col. 10 Li. 42-45, the header information is inputted into the table),

adding a copy of the new object into a plurality of relevant systems (Bashant, Col. 10 Li. 50-53, the hub system forwards indication of the new element is to other storage systems for creation),

registering the new object in the virtual asset register (Bashant, Col. 10 Li. 25-49, upon creation of a new element, the hub system must be informed so that the table can be updated, the hub system creates a new identifier and a new entry in the table),

creating the new object in each relevant system based on object templates (Bashant, Col. 9 Li. 11-15, the table maintains, for each data element, the data element type such as “customer record” or “policy record” & Col. 10 Li. 55-63, when updating other systems, the data element type name and identifier are identified and the storage systems on which the data element is to be replicated must then inform the hub system of how the data element is stored so that the entry for the new data element in the table can be updated, Col. 10 Li. 6-13, indication of how the data is broken down into records for each particular system. One of ordinary skill in the art would have known that the new data would be stored according to some sort of template for each system since templates keep the data uniform for easier access),

establishing automatically a connection between said relevant systems and the new object (Bashant, Col. 10 Li. 40-63, a new universal identifier is created in the hub system and can also be created on each storage system and each storage system must inform the hub system of how the data element is stored),

replicating data related to the new object from the new object to other systems and relevant systems (Bashant, Col. 10 Li. 50-52, the instruction relating to the new element is forwarded to storage systems for replication, this instruction may include the universal identifier and a data element type name of the new element),

establishing a consistency of accessed or retrieved data in the new object and relevant systems (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems & Col. 8 Li. 37-49, maintenance of the table within the hub system allows a data element to be treated or referenced by one storage system and then be synchronized with the other storage systems) by checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed, and the table is checked for identifiers in other systems matching the modified data element's identifier so that the other systems can be synchronized).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Zhu to have included a method wherein similar elements in different systems are consistently represented in the virtual asset register, adding a new object and data related to the new object into a first system, adding a copy of the new object into a plurality of relevant systems, registering the new object in the virtual asset register, creating the new object in each relevant system based on object templates, establishing automatically a connection between said relevant systems and the new object, and establishing a consistency of accessed or retrieved data in the new object and relevant

systems by checking a consistency of attributes of the accessed or retrieved data utilizing the virtual asset register by identifying the new or a given object or copies of the new or a given object and comparing attributes of all copies of the same new or given object because it provides a way to track and update a plurality of data across a plurality of systems without excessive storage requirements (Bashant, Col. 2 Li. 26-29) and without having the storage systems to maintain information for synchronizing with other systems (Bashant, Col. 8 Li. 37-44).

Zhu in view of Bashant doesn't expressly discuss providing the interfaces with context sensitive navigation functions that indicate which system is active.

Zhu in view of Bashant and Budhraja are directed towards managing multiple systems' data.

Budhraja discloses a real-time performance monitoring, management, and prediction platform. This platform can be used with a Compliance Monitoring System (CMS) (Budhraja, paragraph 0084) and a power grid monitoring and management system that includes control performance standards (CPS) (Budhraja, paragraph 0092), among other systems. Budhraja shows user interfaces for the platform where the features the CMS have certain data with tabs that can be navigated as the user wishes (Budhraja, Fig. 18 & paragraph 0129). This data corresponds to the map on the display. The user interface shows different tabs for the CPS (Budhraja, Fig. 22). The tabs provide a way for the user to navigate the different system data, and are context sensitive since they depend upon which system the user is currently utilizing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Zhu in view of Bashant to have included providing the interfaces with context sensitive navigation functions that indicate which system is active because it provides the user with the appropriate utilities for each system when navigating through data from different systems.

With respect to **claim 2**, Zhu in view of Bashant and Budhraja teaches the method according to claim 1, further comprising:

maintaining object connections for objects in a SCADA system as well as any system from the list of: GIS system, ERP system, CMMS system, PM system, WO system, WMS system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph).

With respect to **claim 3**, Zhu in view of Bashant and Budhraja teaches the method according to claim 2, further comprising:

mapping the new object and/or copies of the new object (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format) using a model based on a CIM/XML document (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 4**, Zhu in view of Bashant and Budhraja teaches the method according to claim 2, further comprising:

mapping attributes of the new object and/or copies of the new object (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format) using a model based on a CIM/XML document (Zhu, pg. 45, seamless integration of vendors' proprietary information requires an industry-wide standard for describing power system resources, their attributes and relationships; this is provided by CIM and its extensions).

With respect to **claim 5**, Zhu in view of Bashant and Budhraja teaches the method according to claim 1, further comprising:

establishing the automatic connection or connections between copies of the same object in different systems utilizing a CIM/XML layer (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 6**, Zhu in view of Bashant and Budhraja teaches the method according to claim 1, further comprising:

mapping the new object utilizing a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information

to facilitate mapping between identifiers of separate storage systems & Zhu, pg. 46, the Web-services-based integration framework consolidating the functions of the participating actions) dependent on the CIM/XML layer and/or mapping (Zhu, pg. 45, CIM/XML for Data Exchange, Web services used to integrate legacy applications exchange information in CIM/XML such that languages can properly be translated and understood by foreign applications).

With respect to **claim 7**, Zhu in view of Bashant and Budhraja teaches the method according to claim 1, further comprising:

selecting an object utilizing an identifier in any said relevant system (Bashant, Col. 6 Li. 27-44, the identifier informs the hub system of the precise data element that was treated).

With respect to **claim 9**, Zhu in view of Bashant and Budhraja teaches the method according to claim 4, further comprising:

accessing one or more object attributes of the new object and changing an object attribute of the new object in a source system (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

With respect to **claim 10**, Zhu in view of Bashant and Budhraja teaches the method according to claim 4, further comprising:

updating an object attribute of the new object in the source (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

With respect to **claim 12**, Zhu in view of Bashant and Budhraja teaches the method according to claim 1, further comprising:

deleting an object by deleting the object in all relevant systems (Bashant, Col. 12 Li. 4-12, the instruction will be forwarded so that the other storage systems can likewise delete the data element).

With respect to **claim 13**, Zhu in view of Bashant and Budhraja teaches the method according to claim 12, further comprising:

deleting an object by deleting a defined object in each system (Bashant, Col. 12 Li. 4-12, the instruction will be forwarded so that the other storage systems can likewise delete the data element).

With respect to **claim 14**, Zhu in view of Bashant and Budhraja teaches the method according to claim 13, further comprising:

deleting an object by deleting object connections to a deleted object or deleted defined object (Bashant, Col. 12 Li. 67 – Col. 13 Li. 1-7, the instruction to delete a data element in a storage system can be sent to the hub system which would then delete the entry in the table).

With respect to **claim 15**, the limitations are essentially the same as claim 1, in the form of a computer program product, and are thus rejected for the same reasons.

With respect to **claim 17**, Bashant teaches a computer-based system for retrieving and accessing data said computer-based system comprising:

a plurality of systems storing the data, wherein the data is arranged for operating part of one or more electrical power networks (Zhu, pg. 41, power systems applications), the systems comprising user standard interfaces having standard object-oriented navigation and selection, and input and display methods (Zhu, pg. 46-47 & Fig. 11, consumer services such as user interface services such as internet browser or smart device),

a virtual asset register comprising elements of the systems, pg. 45, 1st paragraph, service registry for storing information of participating business services), the virtual asset register comprising a model for exchange of data between the systems (Zhu, pg. 45, CIM/XML for Data Exchange, CIM and its extensions provide seamless integration of vendors' proprietary information by describing power system resources, their attributes, and relationships), a mechanism for data consistency in data exchange between systems (Zhu, pg. 44, 3rd paragraph, orchestration service controls the interaction of business functions and provides one central service, enhancing the manageability and maintainability within the integrated system) and cross-reference and mapping of relationships of the elements of the systems (Zhu, pg. 48, Messaging and

Collaboration, 2nd paragraph, when data changes, the orchestration service invokes corresponding business services for update), and

a plurality of databases (Zhu, pg. 46, Service-Based Architecture, plurality of systems and replicating across various repositories),

a data communication network and which system includes an HMI providing navigation and access to at least one of at least one SCADA system or database as well as to at least one of any system or database from the list of: ERP, GIS, CMMS, WO, WMS, PM (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet),

a data requester configured to request data relating to a target object included in one of the systems (Zhu, Fig. 12, request from consumer),

an identifier configured to identify relevant systems including data relating to the target object (Zhu, pg. 48, Messaging and Collaboration, translating request message and locate collaborators capable of providing the right business service), and

a data retriever configured to retrieve the data regarding the target object from identified relevant systems utilizing the standard interfaces (Zhu, Fig. 12, retrieving data from each system & pg. 48, Messaging and Collaboration, return results to consumer).

Zhu teaches that the registry, which is controlled by the orchestration service, stores information for participating business services such that the information can be accessed by consumers (Zhu, pg. 45, 1st paragraph). It can be seen that this information would be updated appropriately as new information is added to the systems.

In fact, Zhu states that when data changes, the orchestration service invokes corresponding business services for update and broadcasts the update to the subscribed consumer services (Zhu, pg. 48, Messaging and Collaboration, 2nd paragraph). However, Zhu doesn't explicitly recite a method wherein similar elements in different systems are consistently represented in the virtual asset register, wherein objects added to the systems are registered in the virtual asset register, object templates upon which new objects created in each relevant system are based, a consistency establisher configured to establish a consistency of accessed or retrieved data in the new object and relevant systems utilizing mapping data related to a new object to be added to the data using a virtual asset register, and one or more members for checking the consistency of attributes of any data so accessed or retrieved data by identifying at least one of the or each new or given object or copies of the new or given object in any separate system and comparing attributes of all such copies of the same new or given object from each of the separate systems.

Zhu and Bashant are directed towards synchronizing and replicating data among a plurality of systems.

Bashant teaches a plurality of systems storing the data (Bashant, Fig. 2, storage systems 34, 35, 36, 38, and 39),

a virtual asset register comprising elements of the systems, a model for exchange of data between the systems (Bashant, Col. 10 Li. 6-14, system information within the table that indicates how the data elements are broken down between records for a particular system so that the two systems can properly exchange data), and cross-

reference and mapping of relationships of the elements of the systems (Bashant, Col. 7 Li. 23-30, a cross-reference system managing identifiers in order to determine where data elements referenced by the identifier are stored in different systems), wherein similar elements in different systems are consistently represented in the virtual asset register (Bashant, Col. 9 Li. 11-30, Table with in the hub system contains keys that correspond to a particular data element stored in the storage systems and contains information relating to how the data elements are stored), wherein objects added to the systems are registered in the virtual asset register (Bashant, Col. 10 Li. 25-49, upon creation of a new element, the hub system must be informed so that the table can be updated, the hub system creates a new identifier and a new entry in the table)

object templates upon which new objects created in each relevant system are based, wherein objects added to the systems are registered in the virtual asset register (Bashant, Col. 9 Li. 11-15, the table maintains, for each data element, the data element type such as “customer record” or “policy record” & Col. 10 Li. 55-63, when updating other systems, the data element type name and identifier are identified and the storage systems on which the data element is to be replicated must then inform the hub system of how the data element is stored so that the entry for the new data element in the table can be updated, Col. 10 Li. 6-13, indication of how the data is broken down into records for each particular system. One of ordinary skill in the art would have known that the new data would be stored according to some sort of template for each system since templates keep the data uniform for easier access),

a plurality of databases (Bashant, Col. 5 Li. 21-22, each storage system includes a database),

a data communication network and which system includes an HMI (Bashant, Col. 5 Li. 30-51, users can treat or reference data elements)

a consistency establisher configured to establish a consistency of accessed or retrieved data in the new object and relevant systems utilizing mapping data related to a new object to be added to the data using a virtual asset register (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems & Col. 8 Li. 37-49, maintenance of the table within the hub system allows a data element to be treated or referenced by one storage system and then be synchronized with the other storage systems),

one or more members for checking the consistency of attributes of any data so accessed or retrieved data by identifying at least one of the or each new or given object or copies of the new or given object in any separate system and comparing attributes of all such copies of the same new or given object from each of the separate systems (Bashant, Col. 10 Li. 65-67 – Col. 11 Li. 1-6, when an existing data element is modified or referenced, the hub system is informed so that the other systems can be synchronized).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Zhu to have included a method wherein similar elements in different systems are

consistently represented in the virtual asset register, wherein objects added to the systems are registered in the virtual asset register, object templates upon which new objects created in each relevant system are based, a consistency establisher configured to establish a consistency of accessed or retrieved data in the new object and relevant systems utilizing mapping data related to a new object to be added to the data using a virtual asset register, and one or more members for checking the consistency of attributes of any data so accessed or retrieved data by identifying at least one of the or each new or given object or copies of the new or given object in any separate system and comparing attributes of all such copies of the same new or given object from each of the separate systems because it provides a way to track and update a plurality of data across a plurality of systems without excessive storage requirements (Bashant, Col. 2 Li. 26-29) and without having the storage systems to maintain information for synchronizing with other systems (Bashant, Col. 8 Li. 37-44).

Zhu in view of Bashant doesn't expressly discuss a method wherein the interfaces are provided with context sensitive navigation functions that indicate which system is active.

Zhu in view of Bashant and Budhraja are directed towards managing multiple systems' data.

Budhraja discloses a real-time performance monitoring, management, and prediction platform. This platform can be used with a Compliance Monitoring System (CMS) (Budhraja, paragraph 0084) and a power grid monitoring and management system that includes control performance standards (CPS) (Budhraja, paragraph 0092),

among other systems. Budhraja shows user interfaces for the platform where the features the CMS have certain data with tabs that can be navigated as the user wishes (Budhraja, Fig. 18 & paragraph 0129). This data corresponds to the map on the display. The user interface shows different tabs for the CPS (Budhraja, Fig. 22). The tabs provide a way for the user to navigate the different system data, and are context sensitive since they depend upon which system the user is currently utilizing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Zhu in view of Bashant to have included a method wherein the interfaces are provided with context sensitive navigation functions that indicate which system is active because it provides the user with the appropriate utilities for each system when navigating through data from different systems.

With respect to **claim 18**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, further comprising:

one or members for: adding a new object (Bashant, Col. 10 Li. 25-31, upon creation of a new data element in a storage system, the hub system must be informed); automatically establishing a connection between said relevant systems and the new object (Bashant, Col. 10 Li. 40-63, a new universal identifier is created in the hub system and can also be created on each storage system and each storage system must inform the hub system of how the data element is stored); and for replicating data

related to the new object to other systems and relevant systems (Bashant, Col. 10 Li. 50-52, the instruction is forwarded to storage systems for replication).

With respect to **claim 19**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 18, further comprising:

one or members for: maintaining object connections (Bashant, Col. 8 Li. 37-44, the accurate maintenance of the table allows a data element to be treated or referenced by one storage system and then synchronized with other storage systems); providing connection or connections utilizing a layer with a structured text document protocol (Bashant, Col. 6 Li. 45-67 – Col. 7 Li. 1-10, the headers of the instructions provide the hub system with information to facilitate mapping between identifiers of separate storage systems and are in XML format); and mapping the new object utilizing a structured text document model (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 20**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 19, wherein any of: the structured text document protocol layer, or the structured text document for mapping the new object are implemented with a CIM/XML model (Zhu, Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 22**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, wherein said asset register comprises a list of power network assets which list comprises in turn cross reference and mapping data for objects that are at least one of represented or stored (Bashant, Col. 8 Li. 61065, table interface includes a cross-reference system that includes a identifier matching system which utilizes an identifier to obtain information pertaining to other storage systems) in a SCADA system as well as in any system from the list of: GIS system, ERP system, CMMS system because the GIS system provides information about the geographical location of devices and the ERP system provides information about the maintenance history of the devices and SCADA system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet & Fig. 9 & pg. 45, CIM/XML allows foreign systems to parse and consume data that was originally in a standard base format).

With respect to **claim 23**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, wherein said asset register comprises a list of references for all objects representing individual items of at least one of physical or logical equipment comprised in the one or more parts of the said power network (Zhu, pg. 45, 1st paragraph, the service registry stores information of participating business services & Bashant, Col. 8 Li. 58-67 – Col. 9 Li. 1-30, the table includes keys that correspond to a particular data element stored in the storage systems).

With respect to **claim 24**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 23, wherein the list comprises a master list of all objects in the one or more parts of the said power network together with the mapping data for each object according to a CIM model (Zhu, pg. 45, 1st paragraph, the service registry stores information of participating business services & CIM/XML model is used for data exchange).

With respect to **claim 25**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 24, wherein object data for the objects comprised in the master list of the asset register is stored in at least one separate system including any of a system for: SCADA, GIS, CMMS, ERP, PM, WO (Zhu, pg. 41, first paragraph, & Fig. 11, SCADA & GIS system having data stored therein & pg. 44, 3rd paragraph, the orchestration service controls the interaction of business functions among with the participants).

With respect to **claim 26**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 24, wherein the asset register is a virtual asset register, which does not comprise any object data for the objects comprised in the master list and comprises only link information or cross reference data or mapping data (Zhu, pg. 42, right column, 3rd paragraph, the registry provides an online “phone directory” through which the registered Web services advertise their services &

Bashant, Fig. 3, table interface and table containing only system info and record references).

With respect to **claim 27**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, wherein the virtual asset register implemented according to an XML or CIM model or document (Zhu, pg. 45, CIM/XML for data exchange).

With respect to **claim 28**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, further comprising:

an HMI that may comprise object data accessed or retrieved or stored (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system) in at least one of a SCADA system or database as well object data originating at least one of in any system or database from the list of: ERP, GIS, CMMS, WO, PM (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 29**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 17, further comprising:

a display comprising a human-machine interface for retrieving and accessing data stored in a plurality of systems arranged for operating part of one or more electrical

power networks (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system), which HMI comprises data accessed or retrieved from or stored (Bashant, Col. 5 Li. 3-8, i/o interfaces) in a SCADA system, and also comprising data accessed or retrieved from or stored in any from the list of: GIS system, ERP system, CMMS system, PM system, WO system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 30**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 29, wherein the human-machine interface comprises at least one graphical user interface a data manipulator configured to manipulate the data retrieved from or stored (Bashant, Col. 5 Li. 30-51, users can treat or reference a data element in a storage system) in the SCADA and any of the systems for at least one of GIS, ERP, or CMMS (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

With respect to **claim 31**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 29, wherein said human-machine interface reads out any object property independent of source (Bashant, Col. 8 Li. 54-57, users

can keep statistics regarding the treatment of the data elements and the volume of instruction sending/receiving performed by each storage system).

With respect to **claim 32**, Zhu in view of Bashant and Budhraja teaches the computer-based system according to claim 29, wherein the human-machine interface comprises access to simultaneous data stored in or held by any of the list of: SCADA system, GIS system, ERP system, CMMS system, PM system, WO system (Zhu, pg. 46, right column, Service-Based Architecture, 2nd & 3rd paragraph, SCADA and GIS systems being reengineered by laying an interface on top of the existing legacy applications to allow them to be accessed over the Internet).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu in view of Bashant and Budhraja as applied to claim 1 above, and further in view of A. DeVos et al., *XML for CIM Model Exchange*, IEEE, 2001 (referred to herein as DeVos).

With respect to **claim 8**, Zhu in view of Bashant and Budhraja teaches the method according to claim 7, as discussed above. Zhu discloses use of CIM/XML for data exchange, however, Zhu in view of Bashant and Budhraja doesn't expressly discuss a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework.

Zhu in view of Bashant and Budhraja and DeVos are directed towards exchanging information between storage devices. DeVos teaches a method of using a Common Information Model (CIM) with the Resource Description Framework (RDF) which describes graphs in XML (DeVos, Pg. 33 Part F, 1st paragraph).

DeVos teaches a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework (DeVos, Pg. 33, part F, 3rd paragraph, in the RDF model, a Uniform Resource Identifier is used to designate a resource).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified Zhu in view of Bashant and Budhraja to have included a method wherein the identifier may be a Uniform Resource Identifier compatible as an identifier with a standard for Resource Description Framework because the URI is a standard used to identify resources in the RDF model and the RDF model addresses the problem of representing entities and relationships, such as directed labeled graphs, in XML (DeVos, Pg. 33, part F, 1st and 3rd paragraphs).

Response to Arguments

Rejection of claims 1, 7, and 12-15 under 35 U.S.C. 103

Applicant's arguments, see pg. 12-13 with respect to claims 1 and 15, have been fully considered but they are not persuasive.

Applicant argues on pg. 13 that Bashant teaches that the same data is entered in each system through related data elements differing from the claimed invention which relates to disparate systems in which data may be separately entered in each system. Bashant teaches that data is entered into a data element of one system, and then the update is propagated to the other storage systems having the same data element (Bashant, Col. 10 Li. 67 – Col. 11 Li. 17). Here, data is separately entered into each system and the information is processed so that the data may be exchanged between disparate systems and duplicated in each system. The claim language doesn't reflect that the data is anything different than the related data elements described in Bashant. Applicant further argues that Bashant requires a header when sending out new data, thus requiring modifications to or intervention in existing systems, unlike the present application which doesn't require such modification or intervention. Applicant has pointed out figures in the present application to support this. However, such features are not reflected in the claims, therefore, the references are not required to teach those features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brittany N. McCue whose telephone number is (571)270-3566. The examiner can normally be reached on Mon-Thu 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571)272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. N. M./
Examiner, Art Unit 2169
5-5-11

/Tony Mahmoudi/
Supervisory Patent Examiner, Art Unit 2169